

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (withdrawn) For a handrail having an open gateway between two terminals of the handrail, one terminal on either side of the gateway, a gate comprising:
 - a) a gate arm having a hinge end and a lock end, and pivotable between a closed position and a fully open position;
 - b) a hinge, attached to the hinge end of the gate arm and a hinge terminal of a handrail, being one of the terminals of the handrail, for pivotally connecting the hinge end of the gate arm to the hinge terminal of the handrail; and
 - c) a lock having two matingly engageable/disenagageable components, an active lock component and a passive lock component, one of which lock components is attached to the lock end of the gate arm, and the other of which is attached to a lock terminal of the handrail, being the other of the terminals of the handrail, wherein:
 - i) the active lock component includes a plug projecting substantially perpendicular to the longitudinal axis of the active lock component;
 - ii) the passive lock component includes a socket configured for receiving the plug when the gate arm is in a closed position, the socket having side walls to impede lateral movement of the plug within the socket and end walls to impede longitudinal movement of the plug within the socket such that interference between the passive and active lock components when they are engaged resists longitudinal decoupling forces; and
 - iii) the passive lock component and the active lock component include means for releasably securing the plug within the socket;
- wherein, when the gate arm is in the closed position and the plug is secured within the socket, the gate arm, hinge and lock components act to connect the hinge terminal and lock terminal so as to resist forces tending to move the gate arm and handrail longitudinally away from each other.

2. (withdrawn) A gate as defined in claim 1, wherein the means for releasably securing the plug within the socket comprises:
 - a) a manually-depressable button, attached to the active lock component and biased to project from the plug; and
 - b) a hole through a socket side wall through which the button projects when the plug is seated within the socket;wherein, when the plug is seated in the socket, opening movement of the gate arm is impeded by the button abutting a side of the hole, and the button may be manually depressed to permit opening movement of the gate arm.
3. (withdrawn) A gate as defined in claim 1, wherein the lock components include one or more guiding surfaces for helping to guide the plug and socket during movement of the lock components toward the closed position, into the required alignment for the plug to seat in the socket.
4. (withdrawn) A gate as defined in claim 1, wherein the hinge comprises:
 - a) a link; and
 - b) two connectors, each connector being pivotally attached to the link.
5. (withdrawn) A gate as defined in claim 4, wherein a portion of each connector abuts the link when the gate arm to which the hinge is attached is in the closed position so as to impede pivotal movement of the gate arm in the direction opposite the opening direction.
6. (withdrawn) A gate as defined in claim 4, wherein a portion of each connector abuts the link when the gate arm to which the hinge is attached is pivoted to a fully open position roughly 180° from the closed position, such that the gate arm is substantially parallel to the adjoining handrail, so as to impede pivotal movement of the gate arm beyond roughly 180° between the closed position and the fully open position.

7. (withdrawn) A gate as defined in claim 1, wherein the peripheral profile of the hinge and of the lock elements are selected to merge with the peripheral profile of the gate arm and the handrail when the gate arm is in the closed position.
8. (withdrawn) For use with a handrail made of tubing, in the areas where it is desirable to have a closeable access through the handrail, a two-component lock for releasably connecting one terminating end of the handrail to a pivoting gate arm made of tubing, the lock comprising in combination:
- a) an active lock component having:
 - i) a plug projecting substantially perpendicular to the longitudinal axis of the active lock component; and
 - ii) a stub for insertion into tubing so as to attach the active lock component to the tubing;
 - b) a passive lock component, matingly engageable/disengageable with the active lock component and having:
 - i) a socket configured for receiving the plug when a gate arm is in the closed position, the socket having side walls to impede lateral movement of the plug within the socket and end walls to impede longitudinal movement of the plug within the socket such that interference between the passive and active lock components when they are engaged resists longitudinal decoupling forces; and
 - ii) a stub for insertion into tubing so as to attach the passive lock component to the tubing;
 - c) means for releasably securing the plug within the socket;
- wherein, the lock acts to connect the gate arm and handrail so as to resist forces tending to move the gate arm and handrail longitudinally away from each other.
9. (withdrawn) A lock as defined in claim 8, wherein the means for releasably securing the plug within the socket comprises;

- a) a manually-depressable button, attached to the active lock component and biased to project from the plug; and
- b) a hole through a socket side wall through which the button projects when the plug is seated within the socket;

wherein, when the plug is seated in the socket, opening movement of the gate arm is impeded by the button abutting a side of the hole, and the button may be manually depressed to permit opening movement of the gate arm.

- 10. (withdrawn) A lock as defined in claim 9, wherein the button is in a bore within the plug and a spring biases the button to project from the plug.
- 11. (withdrawn) A lock as defined in claim 10, wherein:
 - a) the button is in a sleeve in the bore;
 - b) the spring is a coil spring positioned between the button and the bottom of the bore;
 - c) the button has an annular shoulder proximate to its inner end;
 - d) the sleeve has an annular retainer proximate to its outer end; and
 - e) the spring biases the button so as to tend to cause the shoulder to abut the retainer.
- 12. (withdrawn) A lock as defined in claim 11, wherein the lock components include one or more guiding surfaces to help guide the plug and socket during movement of the lock components toward the closed position, into the required alignment for the plug to seat in the socket.
- 13. (withdrawn) A lock as defined in claim 12, wherein the guiding surfaces include a laterally-guiding surface for guiding the plug within the socket during closing such that the button is pushed against a side wall of the socket so as to depress the button.

14. (withdrawn) A lock as defined in claim 13, wherein the laterally-guiding surface comprises a planar surface on the side wall of the socket opposite the side wall containing the hole.
15. (withdrawn) A lock as defined in claim 12, wherein the guiding surfaces include one or more longitudinally-guiding surfaces for helping to guide the plug and socket into the required longitudinal alignment for the plug to seat in the socket.
16. (withdrawn) A lock as defined in claim 15, wherein the longitudinally-guiding surfaces include an inclined planar surface on the plug.
17. (withdrawn) A lock as defined in claim 15, wherein the longitudinally-guiding surfaces include an inclined planar end wall in the socket.
18. (currently amended) For use with a handrail made of tubing, in the areas where it is desirable to have a closeable access through the handrail, a hinge for connecting one terminating end of the handrail to a pivoting gate arm made of tubing, the hinge comprising in combination:
 - a) two substantially identical connectors, each connector comprising:
 - i) a clevis having two opposed clevis fingers, and a clevis web spanning the base of the clevis fingers, the clevis fingers defining a clevis gap; and
 - ii) a stub for insertion into tubing so as to attach the relevant connector to the tubing;
 - b) two pins
 - c) a generally-rectangular parallelepiped link, interposed between the clevis fingers of each clevis and pivotally attached to each clevis by ~~a pin through~~ one of the two pins within aligned holes in the clevis and the link, the holes and pins configured so as prevent relative longitudinal movement as between each of the connectors and the link;

wherein the combined pivoting of each of the connectors relative to the link is such that, when the hinge is installed, a gate arm may pivot relative to a handrail through 180°.

19. (currently amended) A hinge as defined in claim 18, wherein, when the hinge is installed and the gate arm to which it is installed is in a closed position, a portion of the clevis web of each connector abuts the adjoining end of the link so as to impede pivotal movement of the gate arm in the direction opposite an opening direction, the abutting sections of each of the connectors and the link being surfaces extending substantially perpendicular to the longitudinal axis of the handrail and gate arm.
20. (currently amended) A hinge as defined in claim 18, wherein, when the hinge is installed and the gate arm to which it is installed is in a closed position, the clevis fingers of one connector abut the clevis fingers of the other connector so as to impede pivotal movement of the gate arm in the direction opposite an opening direction, the abutting sections of each of the connectors being surfaces extending substantially perpendicular to the longitudinal axis of the handrail and gate arm.
21. (currently amended) A gate hinge as defined in claim 18, wherein each connector abuts the link when each connector has pivoted roughly 90° from a closed position relative to the link.
22. (currently amended) A gate hinge as defined in claim 18, wherein, when the hinge is installed, a portion of each connector abuts the link when the gate arm to which the hinge is attached is pivoted to a fully open position roughly 180° from a closed position, such that the gate arm is substantially parallel to the adjoining handrail, so as to impede pivotal movement of the gate arm beyond roughly 180° between the closed position and the fully open position.
23. (cancelled)

24. (cancelled)
25. (original) A hinge as defined in claim 18, wherein the handrail and gate arm are round tubing and each stub is substantially cylindrical and has an external diameter the same as, or slightly smaller than, the internal diameter of the tubing.
26. (original) A hinge as defined in claim 25, wherein each stub is hollow and is provided with circumferentially-spaced longitudinally-extending slits to permit the stub to be slightly compressed to facilitate insertion into the tubing.
27. (original) A hinge as defined in claim 25, wherein each stub has one or more retainer wedges, each retainer wedge having a relatively-long gently-inclined top surface that facilitates insertion of the stub into a tubing and a short end surface that forms a sharp corner with the gently-inclined top surface, which sharp corner engages the inner wall of the tubing so as to resist removal of the stub.